

(12) UK Patent Application (19) GB (11) 2 290 508 (13) A

(43) Date of A Publication 03.01.1996

(21) Application No 9409191.5

(22) Date of Filing 06.05.1994

(71) Applicant(s)
Allan Howard Wilson
115 Underdale Road, SHREWSBURY, Shropshire,
SY2 5EG, United Kingdom

(72) Inventor(s)
Allan Howard Wilson

(74) Agent and/or Address for Service
Allan Howard Wilson
115 Underdale Road, SHREWSBURY, Shropshire,
SY2 5EG, United Kingdom

(51) INT CL⁶
B62K 11/00, B62D 51/02 // B62M 9/00

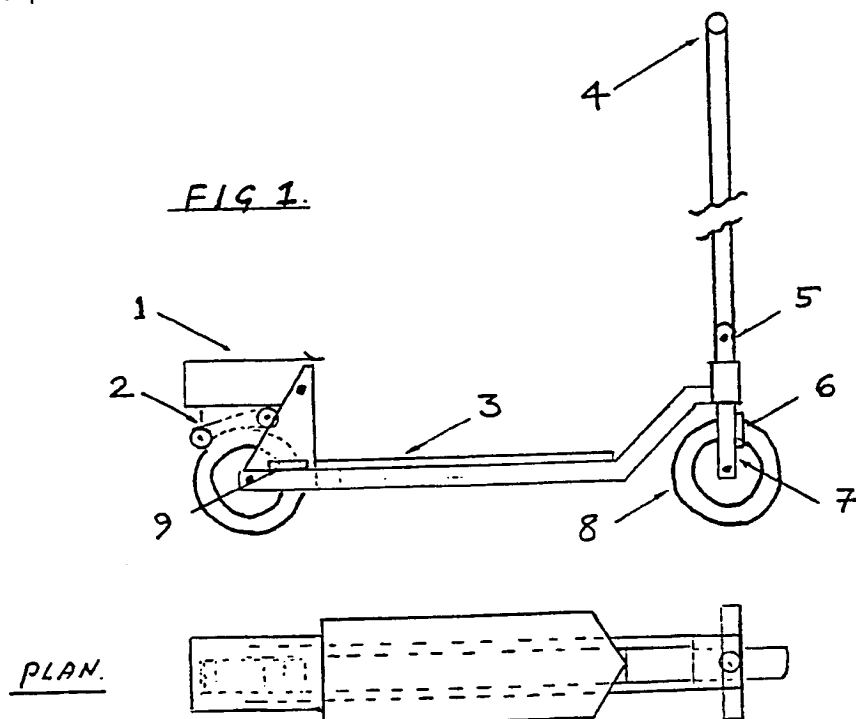
(52) UK CL (Edition O)
B7H HC H713 H714 H741 H754

(56) Documents Cited
GB 2282355 A GB 2279921 A GB 1518432 A
EP 0582254 A1 US 4874055 A US 4186934 A

(58) Field of Search
UK CL (Edition N) B7H HC
INT CL⁶ B62D 51/02 61/00 61/08 61/12, B62K 11/00
11/02 15/00, B62M 7/10 23/02
Online: WPI

(54) Battery powered foldable scooter

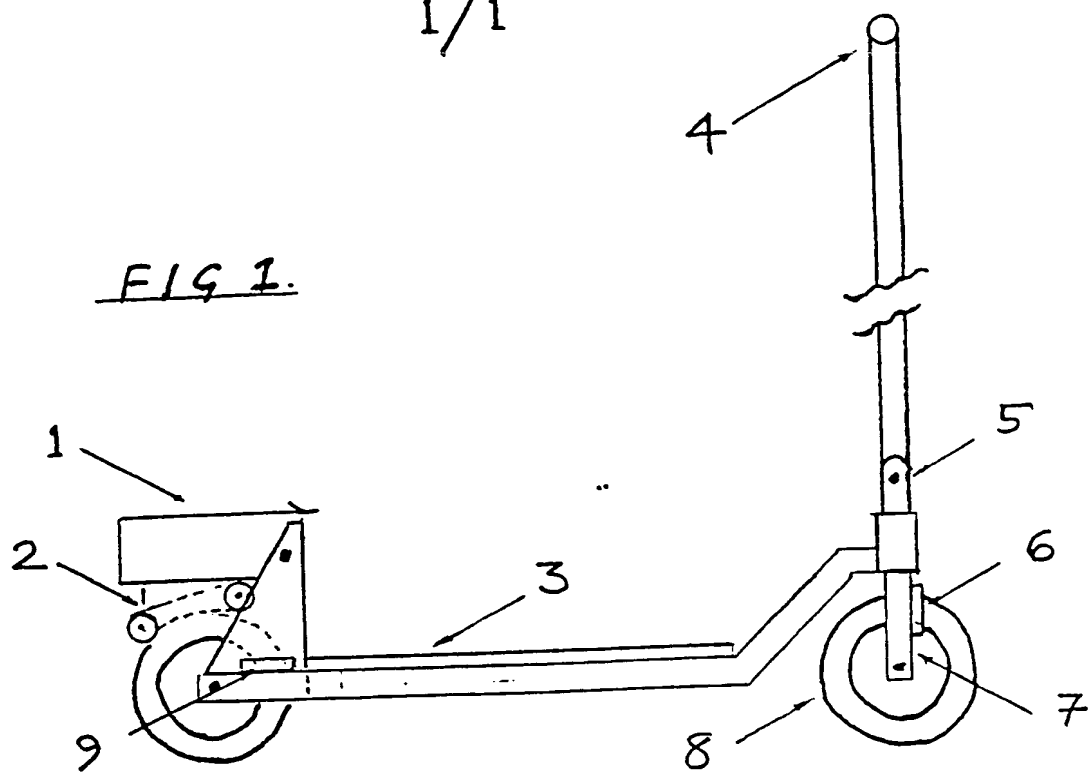
(57) A scooter with 2 or (3 wheels,) similar to that used by children as a toy is made large and substantial enough for use by children or adults. It is fitted with a rechargeable battery and power unit 1 which drives the rear wheel and is controlled by a variable switch. The handlebar 4 of the vehicle is capable of being folded to make the unit more compact. The foot platform 3 is also capable of being folded if required to make the unit more compact. The power unit may be charged in situ via mains external battery power or while in the free wheel mode or may be removed and replaced with a fully charged unit. The vehicle may be propelled by leg power or by electrical power. The vehicle is fitted with brakes 9.



GB 2 290 508 A

1/1

FIG 1.



PLAN.

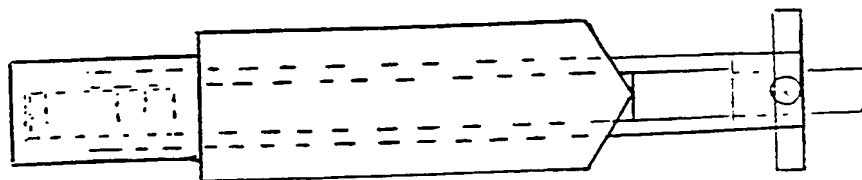
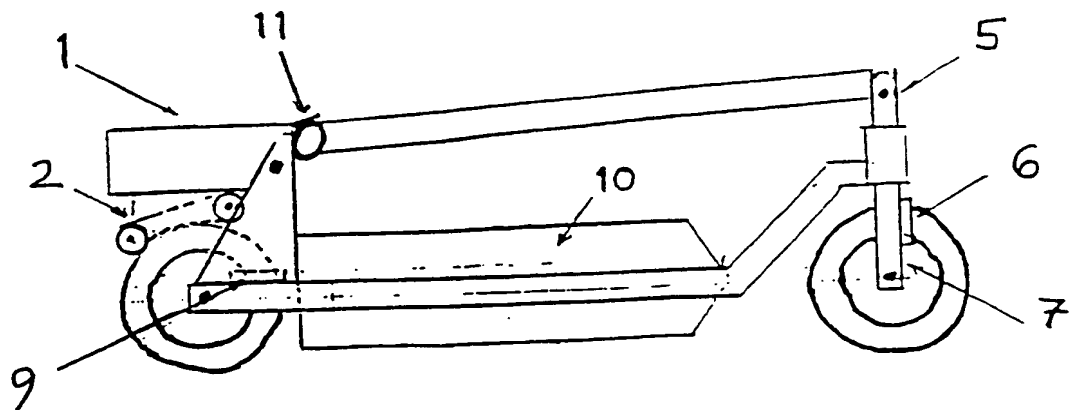


FIG 2.



This invention relates to a 2 (or 3) wheeled lightweight collapsible scooter that is powered by a removable and rechargeable battery and electric motor unit which also contains a facility to recharge the battery when freewheeling or being pushed by leg power.

2 (or 3) wheeled scooters are well known vehicles often used as toys by children and adults. They are light portable and compact and easy to use. By the addition of a rechargeable electric battery/ motor pack the vehicle may be used for adult and child transport on a daily basis and the battery may be charged overnight at home or recharged packs may be held by distributors for exchange. The unit may also be recharged in the overrun mode while travelling downhill or by use of leg power. They are also ideal transport for use on large university campuses, factory sites or large military establishments. They are also ideal to put in the boot of the car or on board a boat or camper. They may also be recharged from a vehicle power supply. The vehicle costs very little to run and is environmentally very conservationist.

According to the present invention there is provided a lightweight scooter with 2 (or 3) wheels. On the rear of the scooter and driving the rear wheel is a combined power/generator and battery unit which drives the rear wheel via a wheel and belt system with drive to the rear wheel. The vehicle is equipped with brakes front and rear to enable it to be stopped. The handlebar and stem control the steering in the conventional way but is hinged at a low point to allow it to be folded to make it compact and easily carried. The stem may be used as a handle.

A specific embodiment of the vehicle will now be described by way of example with reference to the accompanying drawings in which:

Fig 1 shows a side elevation and plan of the 2 wheeled vehicle showing the position of the wheels and the drive /battery/generator unit in the ready to use position.

Fig.2 shows the same unit in the folded, ready to transport position.

Referring to the drawing the scooter comprises of 2 or 3 wheels supported by a simple lightweight frame and bearing a platform on which to stand. The front wheel is controlled in a way similar to that on a bicycle.

At the rear is mounted the power /battery/generator unit over the rear wheel which it drives. this unit also acts like a splash guard. the drive is controlled by a variable power switch mounted on the front handlebars.

The power/battery unit may be recharged in situ or removed and replaced with a replacement charged unit. It may also be removed for security.

The handlbar assembly shaft and the standing platform may be folded to reduce bulk to make the unit more compact.

The drive is through a simple belt system which is also part of the drive/power unit.

Key to the drawings:

- 1 battery and motor unit
- 2 belt drive
- 3 platform (horizontal)
- 4 handlebars
- 5 lockable hinge
- 6 brake
- 7 forks
- 8 wheel and tyre
- 9 brake
- 10 platform (vertical)
- 11 clip

CLAIMS.

1. A 2 (or 3) wheeled scooter which may be pushed in the conventional way but is equipped with a rechargeable battery and electric motor unit which drives the rear wheel. The vehicle is capable of being folded.
2. An electrically powered scooter as described in claim 1 which is made compact by folding back the handlebar shaft and by placing the foot platform in the vertical position.
3. An electrically powered scooter as described in 1 and 2 above, the battery and drive unit of which are capable of being removed and replaced easily by a recharged unit or which may be recharged in situ by mains power or by vehicle battery.
4. An electrically powered scooter as described in 1 to 3 above which is fitted with brakes which enable it to be brought to a halt.
5. An electrically powered scooter as described in 1 to 4 above constructed of lightweight materials which enable it to be transported with relative ease.
6. An electrically powered scooter as described in 1 to 5 above which is fitted with a device which recharges the battery while in the free wheel mode by travelling downhill or by using leg power.
7. An electrically powered scooter as substantially described above with reference to Figures 1 to 2 of the accompanying drawings.

Amendments to the claims have been filed as follows

1. A 2 (or 3) wheeled scooter which may be leg pushed in the conventional way but is equiped with a rechargeable battery and electric motor unit which drives the rear wheel. The vehicle handlebars and foot platform are capable of being folded.
2. An electrically powered scooter as described in claim 1 which is made compact by folding back the handelbar shaft and by placing the foot platform in the vertical position.
3. An electrically powered scooter as described in 1 and 2 above, the battery and/or drive unit of which are capable of being removed and replaced easily by a recharged unit or which may be recharged in situ by mains power or by vehicle battery.
4. An electrically powered scooter as described in 1 to 3 above which is fitted with brakes which enable it to be brought to a halt.
5. An electrically powered scooter as described in 1 to 4 above constructed of lightweight materials which enable it to be transported with relative ease.
6. An electrically powered scooter as described in 1 to 5 above which is fitted with a device which recharges the battery while in the free wheel mode by travelling downhill or by using leg power.
7. An electrically powered scooter as substantially descibed above with reference to Figures 1 to 2 of the accompanying drawings.